USGS science for a changing world

Earthquake Shaking **Yellow** Alert

GSN ANSS USAID FROM THE AMERICAN PEOPLE

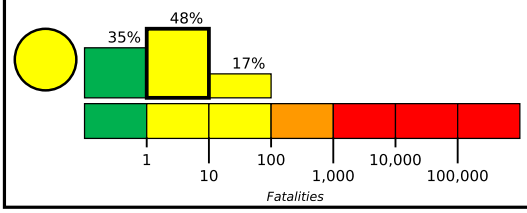
M 6.1, 8 km E of Sullana, Peru

Origin Time: 2021-07-30 17:10:19 UTC (Fri 12:10:19 local)
Location: 4.9171° S 80.6111° W Depth: 33.2 km

PAGER Version 3

Created: 2 hours, 3 minutes after earthquake

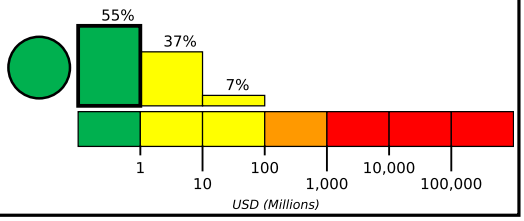
Estimated Fatalities



Yellow alert for shaking-related fatalities. Some casualties are possible and the impact should be relatively localized. Past events with this alert level have required a local or regional level response.

Green alert for economic losses. There is a low likelihood of damage.

Estimated Economic Losses

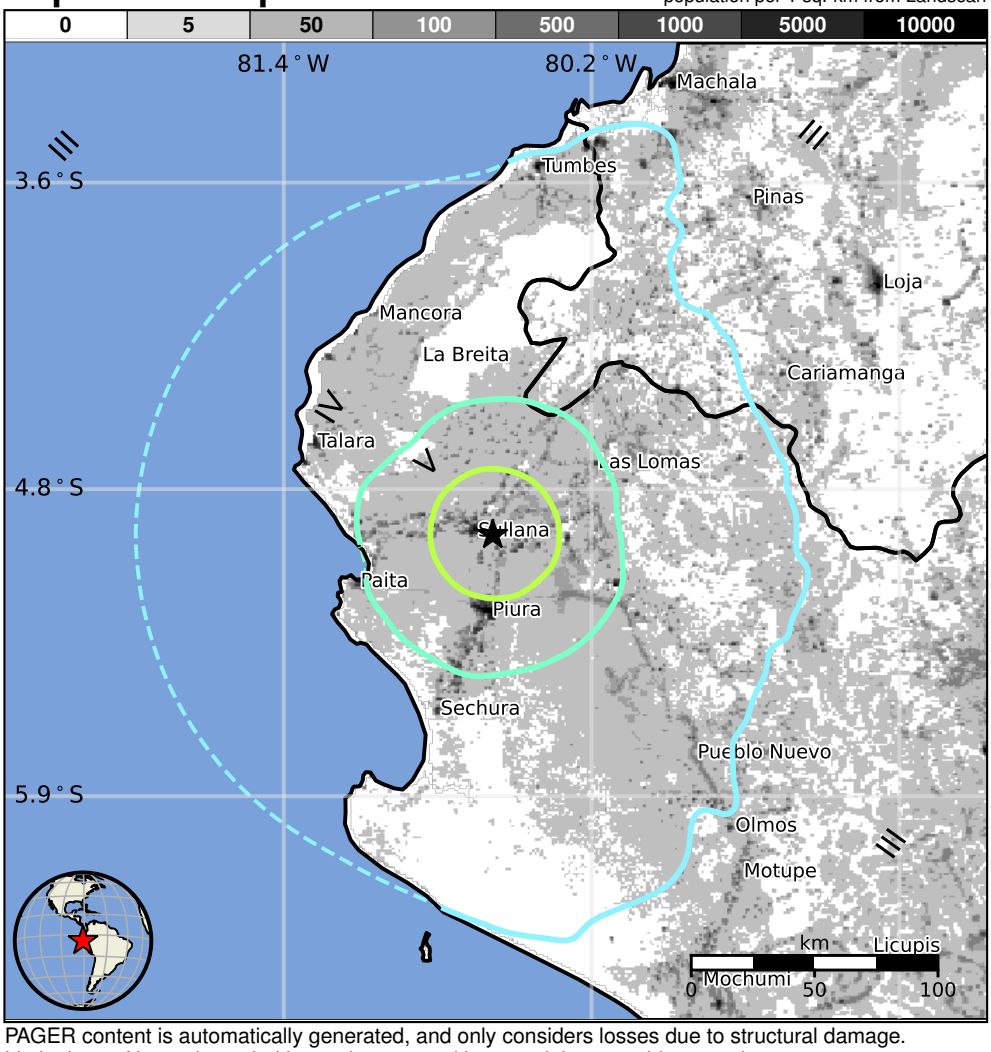


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		–*	1,904k*	1,258k	1,012k	314k	0	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure



Structures

Overall, the population in this region resides in structures that are highly vulnerable to earthquake shaking, though some resistant structures exist. The predominant vulnerable building types are mud wall and reinforced/confined masonry construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1970-12-10	93	7.1	VIII(119k)	81
1995-10-03	389	7.0	VIII(5k)	2
1990-05-30	397	6.5	VIII(131k)	135

Selected City Exposure

from GeoNames.org

MMI	City	Population
VI	**Sullana**	**161k**
VI	Querecotillo	25k
VI	Marcavelica	26k
VI	Salitral	5k
VI	Sojo	<1k
V	Tambo Grande	30k
V	**Piura**	**325k**
IV	**Tumbes**	**109k**
III	**Machala**	**198k**
III	**Loja**	**118k**
III	Zamora	15k

bold cities appear on map. (k=x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.

https://earthquake.usgs.gov/earthquakes/eventpage/us6000f0qr#pager

Event ID: us6000f0qr